USAID | DELIVER PROJECT

Indonesia: Ministry of Health

Central Warehouse Assessment Report

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Indonesia: Ministry of Health Central Warehouse Assessment Report

USAID | DELIVER PROJECT, Task Order 6

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Abstract

One very important and fundamental aspect of strengthening the supply chain system at the MOH is to better understand the organization, effectiveness, gaps, and improvements needed at the MOH Central Warehouse. WHO has started the review process of the MOH Central Warehouse. The USAID | DELIVER PROJECT, in conjunction with WHO, CDC, TBCARE, and CHAI, worked with the various units at the MOH involved with managing and using the MOH Central Warehouse to conduct an in-depth assessment of how the warehouse is organized and its strengths and weaknesses, and to identify what short-term and long-term improvements are needed. Areas assessed included the Central Warehouse infrastructure, operations, management procedures, distribution system, and human resource capacity. The key MOH partner in this work was the Public Medicine Directorate at the Director General for Pharmacy.

Cover photo: Indonesia Ministry of Health, BinFar Warehouse. Warehouse B in the Central Warehouse compound.

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Acronyms

APBN	State Central Budget (Indonesia)
BinFar	Director/Directorate General for Pharmaceutical Services and Medical Devices
BPOM	Food and Drug Monitoring Agency (Indonesia)
BTDK	MOH Research and Development Agency
BUK	Director/Directorate General for Health Services
CDC	Centers for Disease Control and Prevention
CHAI	Clinton Health Access Initiative
CW(A)	Central Warehouse (Assessment)
DirGen	Director/Directorate General
EPI	Expanded Program on Immunization
GFATM	Global Fund to Fight AIDS, Tuberculosis, and Malaria
Gizi KIA	Director/Directorate General for Maternal and Child Health and Nutrition
GOI	Government of Indonesia
HIV	Human Immunodeficiency Virus
LFA	Local Fund Agent
MOH	Ministry of Health
MSH	Management Sciences for Health
NAMRU	(U.S.) Navy Medical Research Unit
NIHRD	National Institute of Health Research and Development
Oblik	Public Medicine Directorate (within BinFar)
P2PL	Director/Directorate General of Communicable Disease
PSM	Procurement and Supply Management
PtD	People that Deliver
PusatData	MOH Data Center for Biomedical and Basic Technology for Health
Sekjen	Secretariat General for the Minister/Ministry of Health
Ses DirGen	Secretariat for Director/Directorate General
Subdit	Sub-directorate

SOP	Standard Operating Procedures
TB	Tuberculosis
TBCare	Tuberculosis Care Project, a USAID-funded Project
USAID	U.S. Agency for International Development
WHO	World Health Organization

Acknowledgments

The author of this document wishes to acknowledge the support for this assessment by the Ministry of Health of Indonesia, the U.S. Agency for International Development (USAID), World Health Organization (WHO), Management Sciences for Health (MSH), Clinton Health Access Initiative (CHAI), TB Care, and USAID | DELIVER PROJECT. At the Ministry, we want to thank the logistics staff in the HIV, TB and Malaria program offices (subdit) as well as the staff in the Directorate General of Communicable Disease (P2PL), Directorate General for Pharmacy (BinFar), Directorate General for Health Services (BUK), Directorate General for Mother and Child Health and Nutrition (Gizi-KIA), their associated Secretariats' for General Directorates (Ses DirGen) and store rooms. Please see at the end of this report the full list of MOH Central Warehouse Assessment (CWA) Stakeholders who all had a large role in the success of this effort.

Many people within these organizations deserve special thanks, including Dr. Setiawan Soeparan, Ibu Prihatiwi Setiati, Dr. M. Subuh, Ibu Diah Erti, Ibu Nadia Wiweko, and Dr. Asik Surya. Their enormous support and commitment have contributed to the success of this assessment.

We are grateful to all the organizations and individuals who have made themselves available during every stage of the assessment, providing their insight and perspective on the current situation in the MOH Central Warehouse they manage or use.

Special thanks go to the members of the assessment team who helped carry out the assessment with dedication and commitment, providing the findings and perceptions, especially the support of TBCare and Management Sciences for Health, which provided the Program Financial and Systems Assessment that was critical to preparing and developing an accurate understanding of the program storage issues and activities before undertaking the actual physical warehouse assessment.

An assessment of this nature involves significant logistical support, and I would like to give special thank you to the USAID | DELIVER PROJECT team in Indonesia, whose members zealously worked to prepare all of the tools for the assessment and who ensured that we had the key people in all of the meetings and discussions at the right time.

The author wishes to express her gratitude for all those in Indonesia who were a part of this assessment in some way; all of their contributions resulted in a very complicated assessment becoming one of collaboration and insight into the country warehouse system and the region as a whole.

Executive Summary

The USAID | DELIVER PROJECT is providing technical assistance to the Ministry of Health (MOH) in Indonesia under the "People that Deliver" (PtD) forum to better understand the organization, effectiveness, gaps, and improvements needed at the MOH Central Warehouse. The World Health Organization (WHO) started the review process of the MOH Central Warehouse. The USAID | DELIVER PROJECT, in conjunction with WHO, the Centers for Disease Control and Prevention (CDC), the Tuberculosis Care Project (TBCare), and the Clinton Health Access Initiative (CHAI), worked with the MOH various units involved with managing and using the MOH Central Warehouse to conduct an in-depth assessment of how the warehouse is organized and its strengths and weaknesses, and to identify which short-term and long-term improvements are needed to bring the warehouse up to international standards.

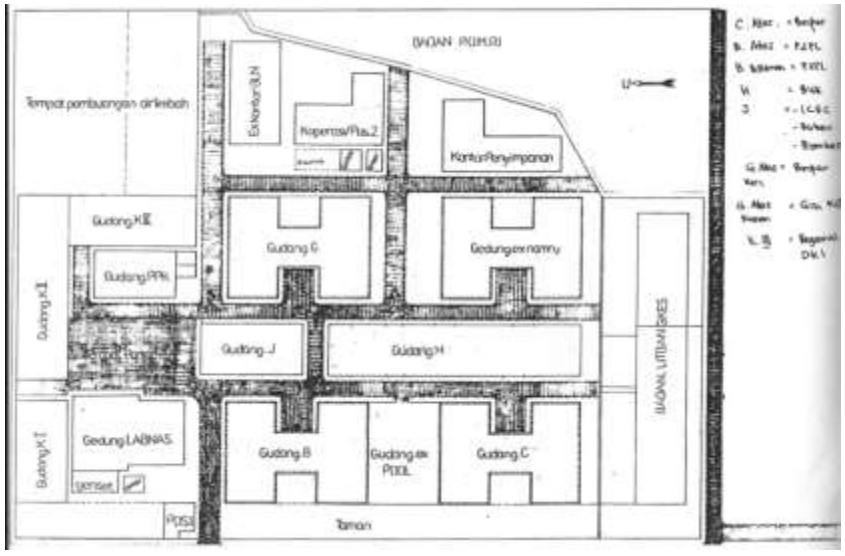
Areas assessed included the Central Warehouse infrastructure, operations, management procedures, distribution system, and human resource capacity. The key MOH partners in this work were the Public Medicine Directorate (Oblik) at the Directorate General for Pharmaceutical Services and Medical Devices (BinFar) and the Directorate General of Communicable Disease (P2PL).

Major Findings

The MOH Central Warehouse is used to warehouse the buffer inventory, not as a hub for continuous resupply to the Provincial or District Levels.

The MOH Central Warehouse is formed by four warehousing structures, part of a large warehouse complex (behind the Food and Drug Monitoring Agency [BPOM]) managed by the Bureau of Finance office, a structure within the Secretariat General for the Minister of Healthy (Sekjen).

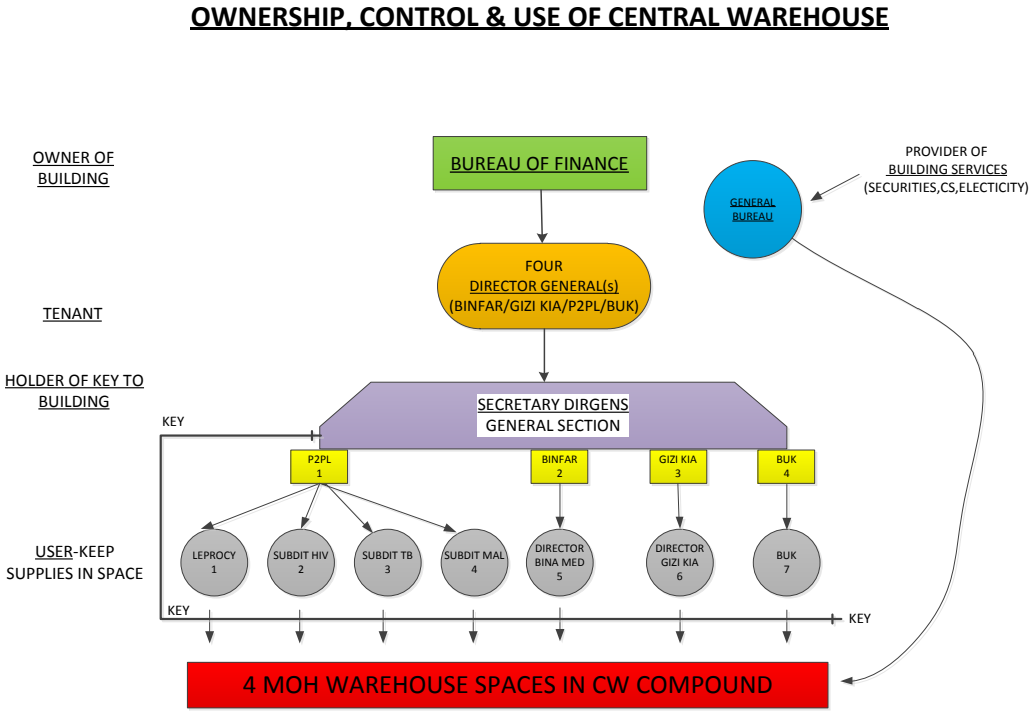
Figure 1. Map of Central Warehouse Compound



Warehouse Ownership

Under the Bureau of Finance "ownership" four tenants (Directors General) are currently allocated warehouse space where program inventory is stored. Within each of these warehouses, the General Bureau of the Sekjen is responsible for the routine maintenance and the processes within the warehouses.

Figure 2. Ownership, Tenant, Control, and Use of Central Warehouses



Warehouse Operations

Goods receiving and Goods Dispatch processes in all warehouses are strictly controlled and managed through the Bureau of Finance procurement process, and representatives of all the key stakeholders are present in these two stages. Storage and inventory management processes differ by warehouse as each Secretariat for Director General (Ses DirGen) (supported by the programs) has a different process and system, which are controlled outside of the actual warehouse facility.

With the exception of the BinFar warehouse, no warehouse staff are constantly on the premises; however, when goods are due to be received or dispatched, there is a coordination process to ensure that all parties concerned are present.

Findings were focused in the following six categories:

- warehouse structure and storage capacity
- safety and security

- process/systems/inventory control
- housekeeping
- human resources
- current/ongoing warehouse renovations

Warehouse Structure and Storage Capacity

The warehouse structures are solid, with no visible evidence of any leakages or dampness. In addition, there is plenty of warehouse storage capacity (see Table 1 below), as the Central Warehouse currently stores only buffer stock (commodities, printed materials, and equipment).

Table 1. Capacity and Use of the MOH Central Warehouse Compound

DATA FROM MOH CENTRAL WAREHOUSE COMPOUND

Table 1a : data al all buildings

	# of buildings	Total Sq Mt Size	Stories	Note
Shape H	3	2.520 x 3 = 7.560	2	Gudang B,C,G
Long Square Shape	2	1638 + 1260 = 2898	1	Gudang H, KII
Short Square Shape	4	630 630 728 462 2450	1	Gudang J, PPK, KI, KIII
Total Warehouses	9	12.908	12	
Office	3	N A	1	Koperasi ex BLN Warehouse Office

Table 1b : Total Space used by MOH

	#	Sq Meter
Total Storage Space	9 warehouse spaces	12.908
	5.5 warehouse spaces	5.035 (39%)

Table 1c : Individual Spaces used by MOH

WAREHOUSE	SHAPE	SIZE	TENANT	Space used by MOH
1. Gudang B	H	2520	P2PL (50%)	1890
2. Gudang C	H	2520	BINFAR (50%)	1260
3. Gudang G	H	2520	SECJEN/G-KIA(50%	1260
4. Gudang H	Long	1638	BUK (10 %)	163
5. Gudang PPK	Short	462	PPK (100%)	462
6. Gudang J	Short	630	0	0
7. Gudang K I	Short	630	0	0
8. Gudang K II	Long	1260	0	0
9. Gudang K III	Short	728	0	0
TOTAL	9	12.908		5035 (39 %)

The nine warehouse spaces comprise 12,908 square meters, but the MOH is using only 39% of this space. The remainder (61%) is rented out to private sector organizations.

Safety and Security

The warehouse compound has round-the-clock compound security, but it is only responsible for the outside area and gates; it does not participate in actual warehousing activities, provide internal security, or have keys to any of the warehouses. Other tenants use the warehouse entrances, which is not ideal because most of them are private companies, and MOH products could be concealed in one of their trucks or vice versa.

Each warehouse has only one door, so goods receipt and goods dispatch are done in the same place, with limited security. This poses a significant risk, especially with regard to supervision of pharmaceutical products. In addition, in all instances except one, the warehouses are on the second floor of the building, which is beneficial because there is seasonal flooding in the area.

All of the buildings have closed elevator shafts that need service. There are also some open elevator shafts that are dangerous for the products but, more important, unsafe for their operators.

Process/Systems/Inventory Control

There are very good procurement, Goods Receipt, and Goods Dispatch processes with all key stakeholders involved throughout these processes.

Inventory reports are circulated biannually after a physical stock count. These reports currently appear in a number of formats, and in many instances, batch number and expiry dates are not recorded. Although these reports do reflect what is currently stored, they do not allow for any real inventory management, nor do they enable staff to monitor goods that are close to expiry. Therefore, staff are unable to minimize the amount of goods that need to be destroyed due to expiration.

In all of the warehouses, inventory is controlled using bin cards. These also are in a number of formats and do not always have batch and expiry date information.

None of the warehouses has an electronic inventory management system, and any type of system, be it Excel or anything else, is located at the program or director general level and not in the warehouse.

General Warehouse Housekeeping

With the exception of the BinFar warehouse, all of the warehouses are extremely dirty. These conditions are not ideal for storing pharmaceutical products or any other type of product destined for a clinic or hospital.

A number of the cartons were dirty and damaged, and they appeared to come from the vendors in this condition. This needs to be addressed with the vendors at the time of the bid process.

All warehouses have ventilation problems and are extremely hot. There are exhaust fans in the windows, but they do not work. Ventilation fans are on the ceiling, but with the high pitch of the roof, they are ineffective at keeping the temperature cooler. Temperature is not monitored in the warehouses, and there are few air-conditioned areas at the central level. In addition, the warehouses have many windows, so the products are exposed to direct sunlight, which makes the warehouses hotter than they would be if the windows were covered.

Fire extinguishers are available in the warehouses, but there are not enough of them and they are not placed appropriately.

The cold storage area at P2PL has two walk-in freezers and is of a high standard but is not fully used because all vaccine distribution has been outsourced to the vendor.

Finally, scheduled drugs (narcotics, etc.) are not warehoused in a secure area, but staff were aware that they needed to do this and to put in place proper inventory control.

Human Resources

Currently there are no dedicated warehouse employees. The BinFar warehouse has staff, paid via honorarium, who are always on duty. In the other warehouses—for example, P2PL, office staff are assigned warehouse duties, but they do not sit in the warehouse. This restricts users' accessibility to the warehouses. In addition, there are no formal job descriptions for any of the warehouse functions staff, nor have they had any formal training. As a result, they all develop their own approach

SOPs are available for some of the processes, but they are all in draft form and have not yet been approved. Despite this, personnel are using them.

Finally, there is no dedicated pharmacist present at the MOH Central Warehouse compound.

Renovations

Renovations had been carried out in the BinFar and have just started in the P2PL warehouses, but renovation plans were not available. Renovation is done as money became available.

Top-Level Recommendations

- Form a logistics management unit to coordinate and set a standard for all the warehouses.
- Clean and fumigate all the warehouses.
- Develop a proposal for a warehouse layout that includes racking and equipment standards.
- Implement temperature monitoring in all warehouses.
- Reduce direct sunlight in all warehouses.
- Set a standard for general warehouse housekeeping; draft warehouse housekeeping guidelines are included in this report.

Full Report—MOH Central Warehouse Assessment

Background

One important and fundamental aspect of strengthening the supply chain system at the MOH is to better understand the organization, effectiveness, gaps, and improvements needed at the MOH Central Warehouse. WHO has already started the review process of this facility. The USAID | DELIVER PROJECT, in conjunction with WHO, CDC, TBCare and CHAI, worked with various units at the MOH involved with managing and using the MOH Central Warehouse to conduct an in-depth assessment of how the warehouse is organized and its strengths and weaknesses, and to identify what short-term and long-term improvements are needed. Areas assessed included the Central Warehouse infrastructure, operations, management procedures, distribution system, and human resource capacity. The key MOH partners in this work were the Public Medicine Directorate (Oblik) at the Director General for Pharmaceutical Services and Medical Devices and the Communicable Disease and Zoonosis Directorates at the Director General for Communicable Diseases (P2PL).

The Ministry of Health has four central structures, collectively referred to as the MOH Central Warehouse. (An additional 32 provincial and 550 district warehouses are not under MOH control.) These four central warehouses, all located in the same MOH compound, are being used by BinFar DirGen, P2PL DirGen, Gizi KIA DirGen, and BUK DirGen.

P2PL DirGen also has three much smaller central store rooms at its office compound, including the Expanded Program on Immunization (EPI) vaccine cold room facility in the basement of its office building.

The MOH central warehouse facilities are under the control of the Financial Bureau of the Secretariat General for the Minister, although these warehouse buildings will be transferred to the General Bureau (of the Sekjen) by the end of 2012, because that bureau is responsible for all buildings and building maintenance for the MOH. These warehouse spaces have been turned over to the four DirGen offices (BinFar, Gizi KIA, BUK, and P2PL) for their use. Although the General Bureau is theoretically responsible for maintenance and security of all MOH buildings, it is not clear who is actually carrying out these services for the Central Warehouse buildings. However, the General Bureau is providing compound security.

The findings and recommendations of the MOH Central Warehouse Assessment (CWA) will be documented in a technical report for use by the MOH and its partners to plan and carry out improvements in the management, organization, and infrastructure of the MOH Central Warehouse.

Methodology

The leading unit at the MOH for this activity was the Public Medicine Directorate (BinFar DirGen) in collaboration with the Directorate General of Communicable Disease/P2PL. An Assessment Steering Committee was formed with the Director of Public Medicine Directorate serving as chair and the Director of Communicable Disease Directorate as vice chair. Members of the Steering Committee came from the MOH subdirectorates that use the Central Warehouse (tuberculosis [TB], malaria, EPI, HIV, etc.) and the key Supply Chain Management Technical Assistance providers working at the MOH (WHO, CDC, CHAI, TBCare, USAID | DELIVER PROJECT, USAID, etc.). This Steering Committee finalized the assessment tool and appointed an assessment team. A small subcommittee formed from the Steering Committee arranged an appropriate schedule for meetings and assessment visits to the Central Warehouse and other necessary MOH units. USAID provided an outside warehouse assessment advisor who worked very closely with the USAID | DELIVER PROJECT Indonesia staff, the MOH, and other Steering Committee stakeholders to support the assessment process and field work.

The Global Fund to Fight AIDS, Tuberculosis, and Malaria's (GFATM) Article 19 includes storage standards that were used as a reference in this assessment.

The Steering Committee received the draft assessment report for input from its members and finalization. The MOH hosted a formal meeting to disseminate the final CWA report.

The MOH Assessment Steering Committee carried out preparations for the assessment with support from the USAID | DELIVER PROJECT Indonesia team, in coordination with the warehouse assessment advisor. The Steering Committee was responsible, with support from USAID | DELIVER PROJECT, for planning, preparation, reporting, and follow-up before and after the assessment. The outside warehouse assessment advisor served as a member of the MOH-formed Central Warehouse Assessment Steering Committee and acted as technical advisor for the field assessment activity. The assessment team was led by an MOH staff person.

The following activities supported the MOH CWA:

Activity 1 – Pre-assessment activities by Steering Committee and subcommittee:

- Prepared a draft "warehouse assessment tool" for the Central Warehouse assessment steering committee to review and finalize in two languages.
- Coordinated planning for the assessment with USAID | DELIVER PROJECT Indonesia staff and the MOH.

Activity 2 – Assessment implementation activities by Steering Committee:

- Reviewed and finalized the draft warehouse assessment tool and trained the assessment team in use of the tool.

Activity 3 – Assessment field work by Warehouse Assessment Team:

- Conducted interviews with staff from different MOH units that manage and use the MOH Central Warehouse.
- Coordinated team visits to the MOH Central Warehouse to conduct staff interviews, collect data, and observe warehouse operations and infrastructure.

Activity 4 – Assessment team's post-assessment analysis of findings and report writing:

- Immediately following the assessment visits to the Central Warehouse, the team met to analyze the information and data collected, drafted findings, and developed preliminary recommendations.

Activity 5 – Assessment team presentation to Assessment Steering Committee:

- Produced a draft technical report of the CWA findings and recommendations with an implementation plan for review by the MOH CWA Steering Committee.
- Revised and finalized the technical report based on feedback from the CWA Steering Committee.

Expected outcomes of the MOH Central Warehouse Assessment:

- Draft warehouse assessment tool submitted to MOH Warehouse Assessment Steering Committee
- Final warehouse assessment tool finalized by the Steering Committee
- Field visits to appropriate MOH units and the Central Warehouse facilities
- Draft assessment report
- Final assessment report

Other processes and resources will address the actual interventions to fill the gaps or solve the problems found in the Central Warehouse facilities through this assessment process.

Implementation

Due to the complexity of the logistics infrastructure, this assessment was implemented in four phases:

- logistics system, monitoring management, and financial pre-assessment;
- understanding of the warehouse infrastructure;
- preparation of a warehouse assessment tool; and
- key findings of the warehouse space physical inspections and interviews with key stakeholders.

Financial and System Assessments

Management for Sciences for Health (MSH) and TBCare conducted these pre-assessments with the support of the USAID| DELIVER PROJECT. Full details are available in the *Warehouse Finance System Assessment Report* and the *Logistics System + Inventory Management Report*, which are included in the list of reference documents at the end of this report.

Pre-Assessment Logistics Systems and Inventory Management Report

A review of systems, tools, and inventory management practices, found throughout the three disease programs ("subdits"), plus BinFar, all of which use the Central Warehouse, was completed; this was a prelude to the fuller warehouse assessment and informed understanding of the factors influencing the respective levels of inbound and outbound logistics within each program.

A rapid system assessment tool was developed and refined to provide a common platform for information; Andy Marsden of MSH/TBCare, with the support of Russ Vogel of the USAID | DELIVER PROJECT, led an exercise to gather and review the relevant subdits.

The rigor of implementing a review of each program logistics system proved invaluable in both securing logistics insights and identifying previously unknown operational activity.

The primary systems assessment findings from this exercise were:

a. The proliferation of systems is noteworthy. In the systems categories reviewed here—forecasting, procurement, inventory management, and warehousing—the respective numbers of systems identified were HIV/AIDS (10) Malaria (eight), TB (nine), and BinFar (seven).

b. There is seemingly little overlap among the systems deployed in the respective organizations, although two common ones are the Government of Indonesia (GOI) information management, accounting and asset management system and costing package (although this is still, not necessarily universal), and the budgeting system used for Indonesia's state budget (APBN).

c. Other unlisted systems under development will have a significant impact on those currently deployed for logistics, including notably the MOH Data Center for Biomedical and Basic

Technology for Health (PusatData) system and the e-Logistics system at BinFar/Oblik. For TB, their Strategic Information Technology System also remains a major development.

d. There is no obvious way in which systems become obsolete and are discontinued, although there seems to be unlimited scope for additions.

e. There is not much interaction on an organizational level regarding the system or sharing of best practices, and there would seem to be little evidence of pan-organizational strategy on logistics systems.

f. Asked whether there is a "push" or "pull" system in place for inventory management from the national level, the correct response would seem to be predominantly "pull," although the modalities of achieving this vary. Also, there is provision for "push" in emergency and other situations, such as outreach campaigns, or adverse media coverage.

Pre-assessment Financial Warehouse Report

To better understand the financial resources available to support and develop the Central Warehouse, pre-warehouse assessment research was conducted at each ATM program (subdit) regarding the availability of its respective Global Fund resources, and, with the primary MOH entities, the Finance and General bureaus, BinFar, Gizi KIA, and P2PL. The budgets address such items as personnel, physical infrastructure, running costs, maintenance, and quality control.

A financial rapid assessment tool was developed to secure a systematic and consistent understanding. The study addresses the annual government allocations made through APBN and the more ad hoc resourcing from the Global Fund; both for the routine running costs and significant capital expenditure, as might be required for renovations.

The main observations from the financial study are listed below.

a. Global Fund financing :

- *Warehouse Procurements*. Any warehouse-related expenditures, such as those for renovation, outsourcing, equipment, computers, etc., are usually precipitated by a Global Fund–related assessment.

- *APBN*. As this is a less flexible and assured source of funding, given a choice, the subdits will make ad hoc procurements with Global Fund monies, which they can readily reprogram. The APBN meanwhile is developed far in advance of actual needs and may be increased or decreased mid-stream. In addition, there is no provision for emergency scenarios.

- *PP70/2012* (Government procurement regulation 70/2012). This new procurement edict (which applies equally to GFATM and APBN) has just had the threshold for open tenders doubled to 200,000,000 Indonesia Rupiah, which will help streamline smaller procurements—for example, warehouse rentals.

- *Communication*. There is currently no inter-subdit communication regarding formulation of Global Fund Procurement and Supply Management (PSM) proposals and very little during their implementation. In addition, the respective grants address different time periods.

- *PSM Line Items*. Although there are broad PSM categories, there is no breakdown to the warehouse-related procurements level of detail—for example, rentals, equipment, fixtures, and fittings, etc. This means the subdits have considerable discretion in addressing requirements.
- *Reprogramming*. The subdits all indicated that reprogramming, in consultation with the local fund agents (LFAs), is relatively straightforward.
- *Resources*. None of the subdits had outstanding issues related to the availability of funds for warehousing projects. Moreover, the funds identified as having been spent on warehouse-related matters account for a relatively small proportion of the PSM part of the grant.
- *Ongoing Costs*. No Global Fund monies was designated for routine warehouse running costs, which were assumed to come from the GOI, although this was not actively checked. Occasional "cleanups," for example, might be sponsored with GFATM funds.
- *Private Sector*. In one instance, GFATM monies were used to address infrastructure improvement requirements at a third-party site
- *Human Resources*. All subdits use Global Fund monies to employ logistics staff, mainly in the administrative and management structures.
- *Financial Coordination*. Enhanced communication and decision making about warehouse issues is required among the subdits, the funder, and the secretariat.
- Different funding cycles make integrated planning, comparisons, and reporting problematic.

b. GOI Financing

- Weak interdepartmental collaboration in the formulation of warehouse (APBN) budget
- Limited and inflexible opportunities (i.e. via APBN, once / year) to identify projected warehouse resources.
- Cumulative neglect of warehousing requirements, because it is a low-priority item
- Protracted transition of warehouse responsibilities from the Finance to the General bureau.
- Reactive, ad hoc approach to warehouse financial resources—that is, lacking in routine provision
- Absence of forum to review common warehouse finance issues
- Absence of pharmacist and warehouse specialist

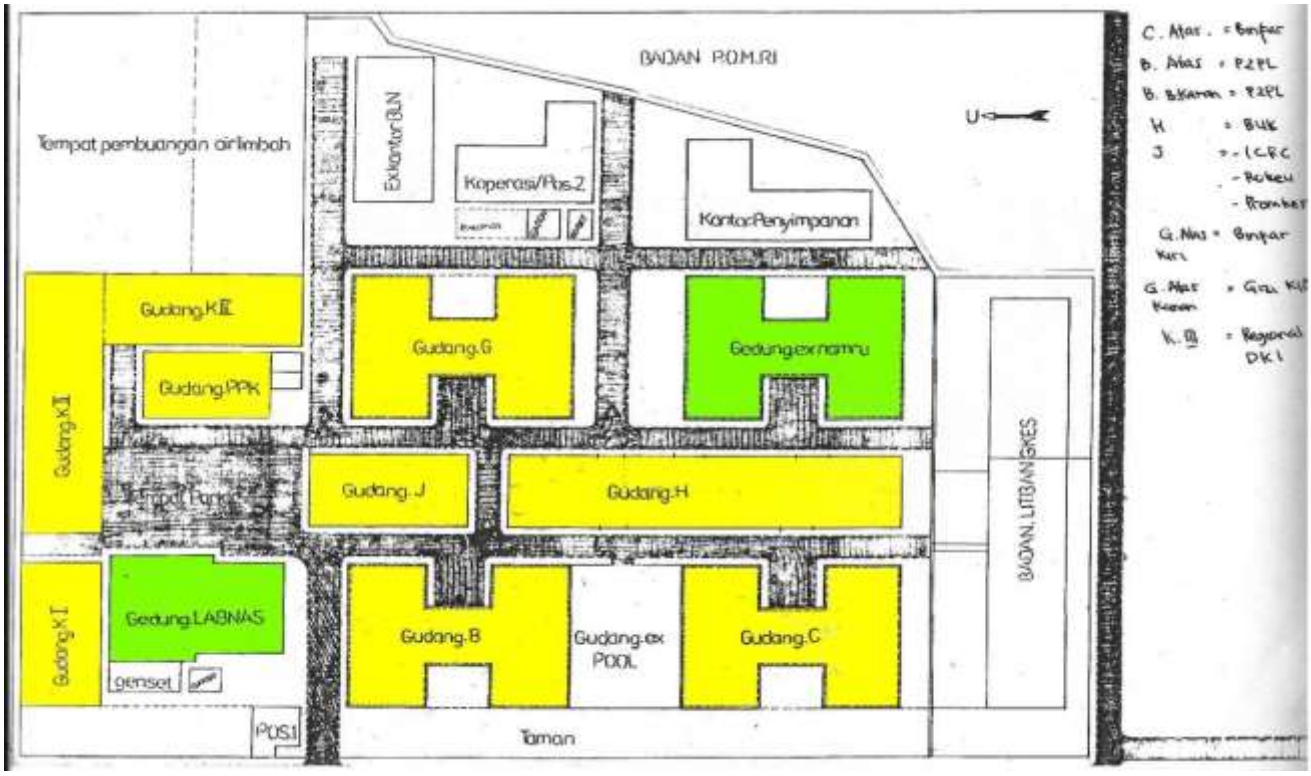
Understanding the Central Warehouse Infrastructure

Obtaining information about the Central Warehouse infrastructure was mainly developed by the USAID| DELIVER local team with guidance and assistance from local stakeholders and logisticians from the various programs. The main MOH Central Warehouse spaces are in a large warehouse compound situated in an area behind the BPOM complex. These warehouse buildings are "owned" (controlled) and managed by Bureau of Finance/Sekjen's Office; however, the compound's security, electricity, and general cleaning services are the responsibility of the General Bureau/Sekjen's Office.

Shortly the building's ownership will be transferred to the General Bureau, since this bureau is responsible for MOH buildings.

Figure 3, below, gives a clear view of the useable space within the Central Warehouse compound. The compound has nine warehouse spaces (highlighted in yellow) and two additional spaces that are not used for storage—the National Laboratory and the ex-NAMRU NIHRD Office for Center for Biotechnology (highlighted in green).

Figure 3. Map of Central Warehouse Compound



The three H-shaped warehouses (B, C, and G) are two-story buildings. The remaining warehouses (H, J, KI, KII, KIII, and Gudang PPK) are one story.

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The Bureau of Finance allocates the large Central Warehouse spaces in the compound to four Directors General—P2PL, BUK, BinFar, and Gizi KIA—as shown in Figure 4 below. The DirGen Secretariat holds the key to the allocated building and controls access for the warehouse users. Users are the subdits at P2PL or the directorates at BinFar, BUK, and Gizi KIA. The General Bureau provides security, cleaning service and electricity to the Warehouse Compound.

Figure 4. Bureau of Finance Allocation of Warehouse Space

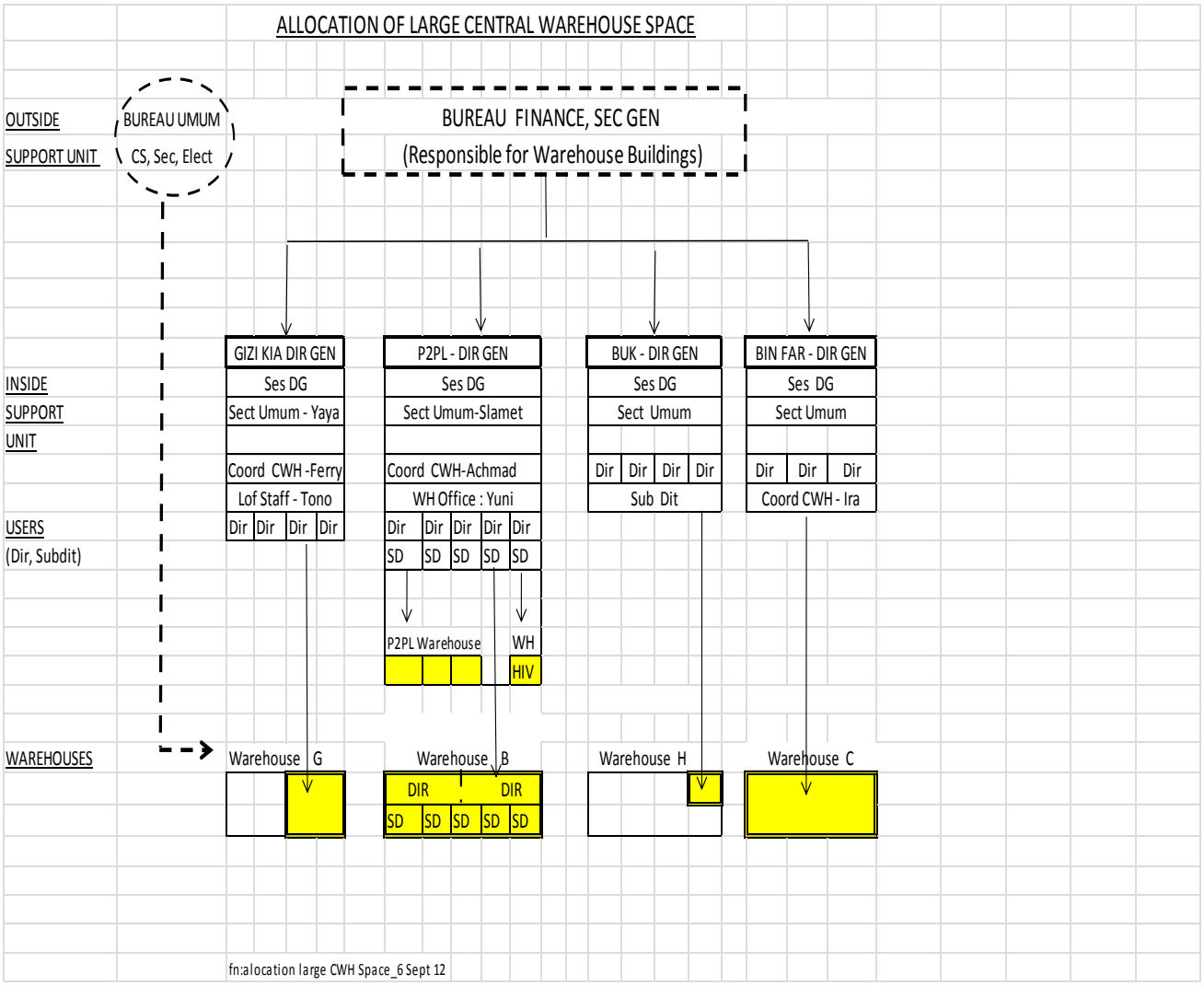
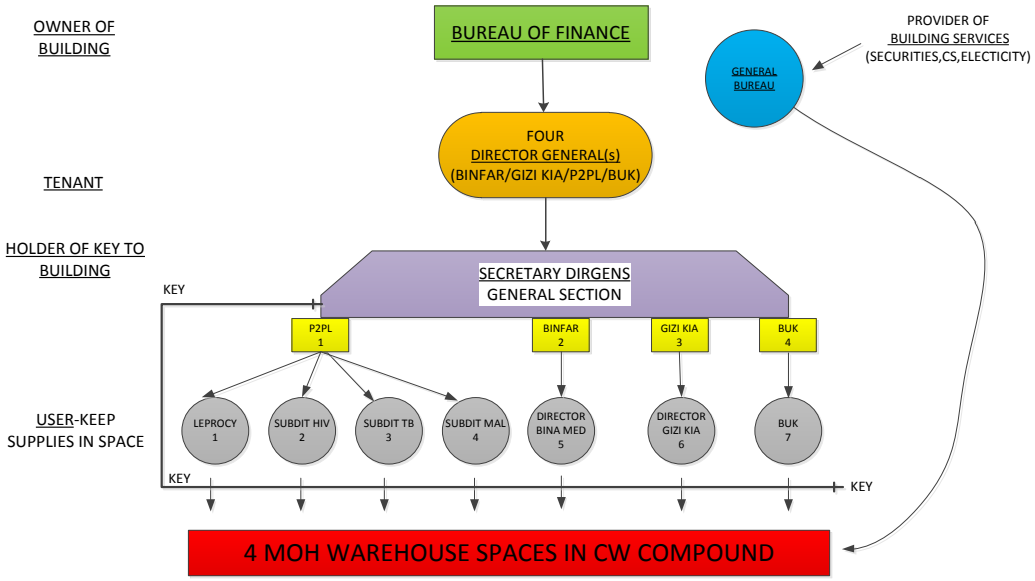


Figure 5 shows ownership, tenants, access via key, and users of the large warehouse spaces.

- The owner of the warehouse: Bureau of Finance/Sekjen Office
- Tenant: Director General for each of the four allocated warehouse spaces
- Key holder: Secretariat of DirGen, which controls access to warehouses
- Actual users: various directorates and subdirectorates (subdits)

Figure 5. Ownership, Tenant, Control, and Use of Central Warehouses



It should be noted that, in addition to the four large central warehouse spaces (B, C, G, H) the four DirGens use, considerable space at the central level serves as private sector warehouses, as shown in Figure 6 including storage space for anti-retrovirals, vaccines, and TB second-line drugs (at the request of GFATM). This generally follows MOH policy to use vendor storage space rather than MOH warehouses.

Figure 6. Warehouse Space Includes Private Sector Storage Facilities

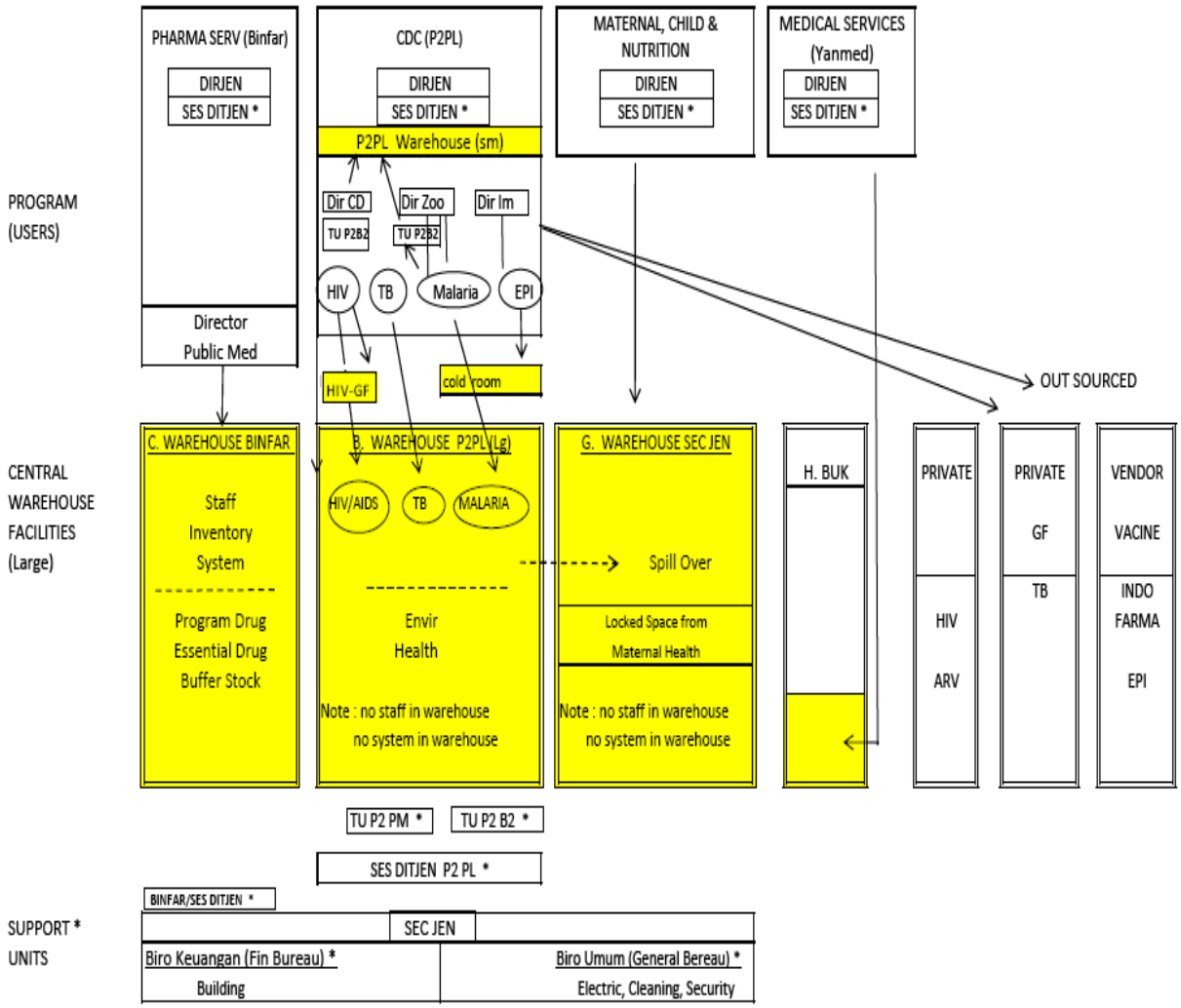


Table 2 shows the warehouse storage capacity and MOH use of the warehouse space.

Table 2. Capacity and Utilization of the MOH Central Warehouse Compound

DATA FROM MOH CENTRAL WAREHOUSE COMPOUND

Table 6 a : data al all buildings

	# of buildings	Total Sq Mt Size	Stories	Note
Shape H	3	2.520 x 3 = 7.560	2	Gudang B,C,G
Long Square Shape	2	1638 + 1260 = 2898	1	Gudang H, KII
Short Square Shape	4	630 630 728 462 2450	1	Gudang J, PPK, KI, KIII
Total Warehouses	9	12.908	12	
Office	3	N A	1	Koperasi ex BLN Warehouse Office

Table 6 b : Total Space used by MOH

	#	Sq Meter
Total Storage Space	9 warehouse spaces	12.908
Estimated used by MOH *	5.5 Warehouse spaces	5.035 (39%)

Table 6 c : Individual Spaces used by MOH

WAREHOUSE	SHAPE	SIZE	TENANT	Space used by MOH
1. Gudang B	H	2520	P2PL (50%)	1890
2. Gudang C	H	2520	BINFAR (50%)	1260
3. Gudang G	H	2520	SECJEN/G-KIA(50%	1260
4. Gudang H	Long	1638	BUK (10 %)	163
5. Gudang PPK	Short	462	PPK (100%)	462
6. Gudang J	Short	630	0	0
7. Gudang K I	Short	630	0	0
8. Gudang K II	Long	1260	0	0
9. Gudang K III	Short	728	0	0
TOTAL	9	12.908		5035 (39 %)

Warehouse Assessment Tool

The Assessment team, with support of the Steering Committee, compiled this tool and covered all areas of warehouse management, including:

- goods receiving
- order processing
- distribution
- inventory control
- facilities
- organizational support

Not all of the sections in the assessment tool were applicable for each warehouse space, so we used only the applicable areas when we visited the warehouses and interviewed the key stakeholders. These interviews also included a discussion of the effectiveness of current processes.

Key Findings

The key findings are covered in six categories: warehouse structure and storage capacity; safety and security; process/systems/inventory control; general housekeeping; human resources; renovations.

Warehouse Structure and Storage Capacity


Photos 1 and 2 show the outside of the warehouses.

The warehouse structures are solid, with no visible evidence of any leakage or dampness. All Central Warehouses are part of a large warehouse compound with 24-hour security seven days a week. With one exception, all spaces used for storage are located on the second floor, which is helpful because there is seasonal flooding in this area. There is plenty of available warehouse storage capacity as the Central Warehouse is used to store buffer inventory only.

Safety and Security


Photos 3 and 4 above show goods receiving and goods dispatch.

The warehouse compound currently has round-the-clock security, but only responsible for the outside area and gates. Security personnel do not have warehouse keys, and are not responsible for any activities inside the warehouses.

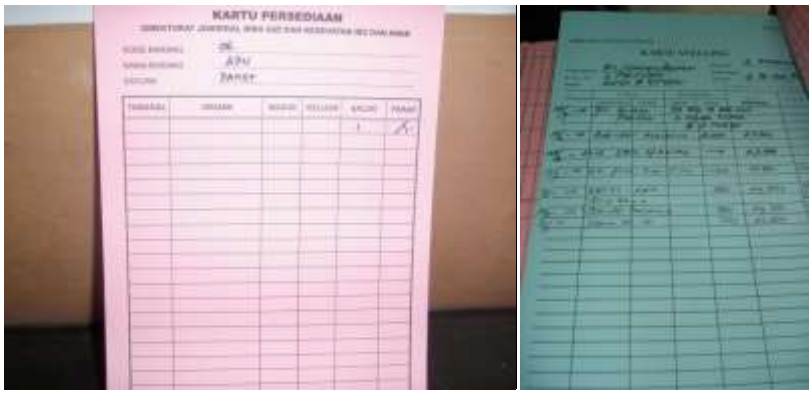
Each warehouse has only one door, so goods receipt and goods dispatch are done in the same place, with limited security. As photos 3 and 4 illustrate, commodities are being offloaded for the MOH warehouse, and the empty truck is waiting to loaded for another tenant. This poses a significant risk, especially with regard to supervision of pharmaceutical products. In addition, in all instances except one, the warehouses are on the second floor of the building, which is beneficial because there is seasonal flooding in the area.

All of the buildings have closed elevator shafts that need service. There are also some open elevator shafts that are dangerous for the products but, more important, unsafe for their operators.

Photos 5 and 6 (above) show elevator shafts.

There are currently elevator shafts in all of the two-story buildings. The closed shafts are ideal, but they need to be cleaned and serviced. The open shafts are being used for storage, which is risky for the commodities and extremely dangerous for the elevator operators.

Process/Systems/Inventory Control



Photos 7 and 8 show two different bin cards, both of which are used.

The processes in place for procurement, goods receiving, and goods dispatch involves all of the key stakeholders. Inventory is managed through bin cards, which have a number of formats. Not all the bin cards include batch numbers and expiry dates. Physical stock counts usually, but not consistently, take place biannually and reports are circulated to tenants and key stakeholders. These reports, which do not include batch number and expiry date information, can be used to control the number of products in

the warehouse but not to manage the inventory. As a result, are not useful for minimizing wastage due to expiration.

Inventory management is currently done at subdit or program level, so inventory reports and systems differ by program. There is currently no functional electronic inventory warehouse management system at the central level, but systems in various forms do exist at program level. There is no consolidated view of inventory at any level in the supply chain.

General Housekeeping


Photos 9 and 10 portray examples of areas in need of housekeeping.

With the exception of the BinFar warehouse, all of the warehouses are extremely dirty. These conditions are not ideal for storing pharmaceutical products or any other type of product, including printed matter, destined for a hospital or a clinic.


Photos 11 and 12 show how goods are stacked and the position of the exhaust fan.

A number of cartons were damaged and dirty, and they appeared to come from the vendors in this condition.

All warehouses have ventilation problems and are extremely hot. There are exhaust fans in the windows, but they do not work. Ventilation fans are on the ceiling, but with the high pitch of the roof, they are ineffective at keeping the temperature cooler. Temperature is not monitored in the warehouses, and there are few air-conditioned areas at the central level.

The cold storage area at P2PL has two walk-in freezers and is of a high standard but is not fully used because all vaccine distribution has been outsourced to the vendor.

Photos 13 and 14 depict warehouse windows.

The warehouses have many windows, so the products are exposed to direct sunlight, which makes the warehouses hotter than they would be if the windows were covered.

Fire extinguishers are available in the warehouses, but there are not enough of them and they are not placed appropriately.

Human Resources

Currently there are no dedicated warehouse employees. The BinFar warehouse has staff, paid via honorarium, who are always on duty. In the other warehouses—for example, P2PL, office staff are assigned warehouse duties, but they do not sit in the warehouse. This restricts users' accessibility to the warehouses. In addition, there are no formal job descriptions for any of the warehouse functions staff, nor have they had any formal training. As a result, they all develop their own approach. SOPs are available for some of the processes, but they are all in draft form and have not yet been approved. Despite this, personnel are using them.

Finally, there is no dedicated pharmacist present at the Central Warehouse compound.

Renovations

Renovations are currently under way in two of the warehouses on the compound, and the smaller, P2PL, has recently completed renovating the warehouse and the adjacent office space.

Photos 15, 16, and 17 above show how goods are stacked.

In the BinFar warehouse, floors have been redone well, walls have been painted, and all products in the available goods warehouse are stacked on pallets away from the walls. There is also racking in the warehouse where all the goods awaiting destruction are stored. The quality of the racking is not high, so some of it is collapsing because it cannot hold the weight.

Photos 18 and 19 shows stacked goods ready to be disposed of.

They have starting building partitions in the P2PL warehouse to enable each program to have a locked, dedicated space as required, and they have begun clearly marking the designated spaces.

Recommendations

The CWA recommendations focused on the following areas:

- logistics unit
- warehouse structure and storage capacity (including floor plan and flow)
- general housekeeping (including reducing sunlight)
- temperature monitoring

Logistics Unit Management/Team in BinFar

Form a logistics management unit, whose responsibilities would include the following.

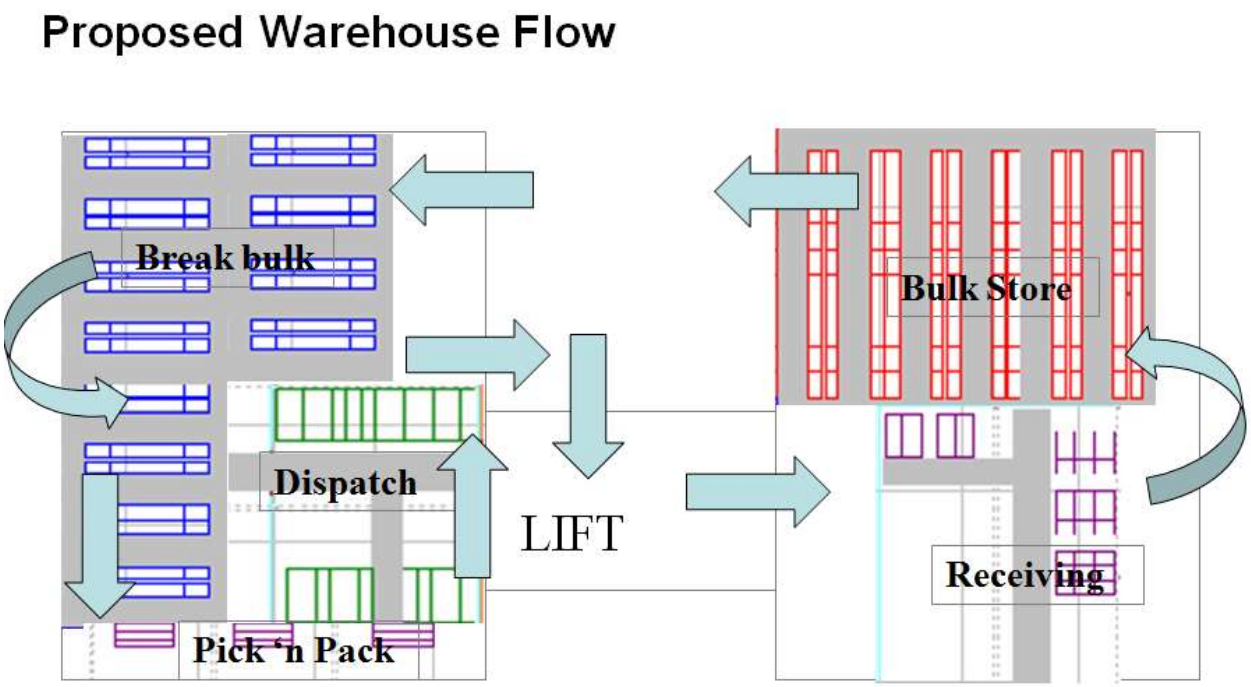
- Set the standard of process for all the warehouses within the network.
- Manage the warehouses as the warehouse operator, providing all value-added warehouse services, including
  - warehouse housekeeping/compliance/safety/security,
  - goods receipt,
  - inventory management,
  - order processing, and
  - goods dispatch.
- Be responsible for logistics data across all programs to inform the MOH of all of the country's needs vs. procured/shortfall.
- Prepare a five-year logistics plan, including projected plans from all programs to ensure that all parties are working toward the same goal/vision. (This could be controlled through the same logistics unit/team.)

Warehouse Structure and Storage Capacity

- There are no major changes, as one cannot change the entrance to the warehouses unless changes are made to the full structures. Other controls will need to be put in place to ensure receiving and dispatch compliance.
- Safety of the lift shafts should be assured, and broken windows should be replaced.
- Warehouses are not racked, but could be racked/shelved to treble the current storage capacity if required.

- The BinFar warehouse will be racked, and a floor plan should be proposed (see Figure 7) to assist with the racking project to maximize future storage capacity.

Figure 7. Proposed Warehouse Flow Diagram



General Housekeeping

- An immediate task is to dejunk and move everything to be destroyed to one area, which is then cleaned out.
- Destroy goods as they are removed from the asset register.
- Clean all the warehouses and fumigate them thoroughly.
- Blacken windows to reduce sunlight, as shown in photo 20 below.

Photo 20 – an example of a blackout curtain.

- Blackout curtains are made of 98% blackout fabric that is NFPA-701–approved for flame resistance.
- They can be designed in almost any configuration and are useful for almost any application.
- They are manufactured using heavy-duty nylon thread and reinforced nylon webbing, with #2 brass grommets punched on top for superior strength.
- A variety of track systems are available, from light duty to industrial heavy duty.
- Curtains are customizable to exact size and specifications.

Photo 21 – shows an example of a black privacy window film.

- Black privacy window film reduces up to 99% of damaging UV rays.
- It can be applied to inside surfaces on windows or removable storm panes as well as flat plastic or plexiglass windows.
- For sealed dual-pane windows, or windows with interior storm panes, the film must be applied to the outside surface.
- This film can be taken off the glass easily and reused as desired.

- Place fire extinguishers in appropriate positions.

Temperature Monitoring

- Fix all exhaust fans and ensure that they are constantly in use.
- Buy floor fans for the commodity warehouses if the temperature does not decrease after the windows are blackened and the exhaust fans are repaired. These fans would not be required for the warehouses where equipment and printed matter are stored.
- Buy digital thermometers and start monitoring temperature (initially three times a day).

- Buy generators to support the fans and air conditioners in case of power outages.
- Purchase sufficient plastic pallets to ensure all that inventory is not placed directly on the floor.

Figure 8. Recommendations for Temperature Monitoring Tools and Forms

Temperature Monitoring Recommendation

MONTH _____ YEAR _____

Date	Time	Temperature °C			Checked by Initals	Thermometer Reset (Tick)
		Actual	Maximum	Minimum		
1						
2						
3						
4						
5						
6						

Recommended Digital thermometres
Monitoring (using proposed control sheet above):
Phase 1 – 3 time per day
Phase 2 and thereafter – 2 per day

Next Steps

- Cost estimation of three phases
- Briefing with key decision makers
- Half-day dissemination workshop
- Draft project plan, including pilot activities
- Delegate responsibilities
- Identify funding
- Schedule further technical assistance
- Begin implementation

Draft Implementation Plan

Table 3 includes the steps to follow to implement the implementation plan.

Table 3. Implementation Plan

Task	Phase I Sept-Mar '13	Phase II Jan–Dec ' 13	Phase III '14 →
Housekeeping:			
• De-Junking	x		
• Cleaning			
o Once off cleaning	x		
o Routine cleaning		x	x
• Fumigation	x		
• Racking	x		
• Ventilation			
o Installation of fans	x		
o Maintenance		x	x
• Temperature Control			
o Installation of Thermometers	x		
o Monitoring	x	x	x
• Window blackening	x		
• Lift shafts			
o Repair P2PL	x		
o Service (other warehouses)	x		
o Maintenance		x	x

Task	Phase I Sept–Mar '13	Phase II Jan Dec '13	Phase III '14 →
Provision of Human Resources :			
• Commodity security	x		
• Warehouse Manager		x	
• Pharmacist		x	x
• Warehouse Operations coordinator			x
• Warehouse picker/packer			
Capacity Building (Training):			
• Housekeeping and Commodity Security	x		
• Warehouse Operations		x	
• Warehouse Management			x
Warehouse Equipment:			
• Plastic Pallets	x		
• Trolley (manual)	x		
• Generator		x	
• Pallet trucks (manual)		x	
• Fork Lifts		x	

Task	Phase 1 Sept–Mar' 13	Phase 2 Feb-Dec'13	Phase 3 '14 →
Systems:			
• Standardized Batch Cards	x		
• Standardized Inventory Reporting Consolidation	x	x	
• Consolidated Inventory Reporting			x
• Fully Integrated Warehouse Management System (including the necessary hardware to run the system)			
Warehouse Management:			
• One responsible entity for all warehouse operations providing reporting to MOH and programs (3PL solution)			x

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